+12122 (1) +

S.QUENCE LISTING

RECEIVED

#11

JUNE 1 Paris

TECH CENTER 1600 2900

```
*:120 - PEOTEINS PRODUCING AN ALTERED IMMUNOGENIC RESPONSE AND METHODS OF MAKING AND USING THE SAME
```

```
-:130 - A-48893/DJB'DAV
<:140 - 09 500,135</pre>
<141 + 2000=02=08</pre>
· 150 · 09 1060,872
*151 · 1995-04-15
\pm 1160 \pm 1156
R176 - Patentin Ver. 2.1
-1219 \times 1
-1111 - 1445
HILL - DNA
HULLS amyloliquefacions
HUDI - mat peptide
\pm 1.000 \pm (417) \dots (1495)
-1317 CIR
HDDD: 1941..(1244)
111
+1221 - miss feature
H202H (5H2)..(584)
\pm 2223\% The nnn at positions 532 through 584 which in a
      preferred embodiment (aat) is to code for
      asparagine, but which may also code for proline.
·;_________
+121 - misc feature
-22.7 \times (585) \dots (587)
FLUIS: The nnn at positions 585 through 587 which in a
      preferred embodiment (cct) is to code for proline,
      but which may also code for asparagine.
-1220 -
HUD1- misc feature
HUDDA (597)..(899)
HLDB The nnn at positions 597 to 599 which in a
      preferred embodiment (aac) is to code for
      asparagine, but which may also code for aspartic acid.
```

-1223 The nnn at positions 678 through 680 which in a preferred empodiment (gda) is to code for alanine, but which may also code for serine. -1230--1.1.21 · misc feature -0222 · (681) .. (683) $43.25 \cdot$ The nnn at positions 631 through 653 which in a preferred embodiment (toa) is to code for serine, but which may also code for alamine. 32.351 -<!??! misc feature</pre> ペンンス・ (7:13)..(710) <223 The nnn at positions 703 through 710 which in a preferred embadiment (got) is to dode for alanine, but which may also code for aspartic acid. < 0.005 <2221 - misc feature $<222 \cdot (711) \dots (713)$ <2.2.3 . The nnn at positions 711 through 713 which in a preferred embodiment (gad) is to dade for aspartic acid, but which may also code for alanine. <220 × <221 - misc feature</pre> 村222 · (888) .. (390) <223 - The nnn at positions 888 through 890 which in a preferred embediment (act) is to code for threonine, but which may also code for serine. <22.20 -<2010 misc feature</pre> <0.002 (891)..(893)<3.3.3. The nnn at positions 891 through 893 which in a</p> preferred empodiment (tcc) is to code for serine, but which may also code for threonine. -10.000 *MAI: misc feature +:2229 + (1:67) ... (1169)+2230 The nnn at resitions 1167 through 1169 which in a preferred embodiment (gaa) is to code for glutamic acid, but which may also code for glutamine. <400> 1 gg:ctactaa aatattatto catactatac aattaataca cagaataato tgtctattgg 60 ttattotgoa aatgaaasaa aggagaggat aaaga atg aga ggo aaa aaa gta 113 Met Arg Gly Lys Lys Val

tgq atc agt ttg ctg ttt gct tta gcg tta atc ttt acg atg gcg ttc Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu Ile Phe Thr Met Ala Phe

-95

-100

	_					_	gog Ala	-	3 3 3					_	_	209
							cag Gln									257
							gaa Glu									305
			-	-	_	-	toa 3er -30							_	-	353
							ago Ser									401
							tod Ser									449
							caa Gln									4.97
							ato Ile 35									545
							gtt Val									593
							cac His									641
							gly									689
							nnr. Kaa									737
					-		ato Ile 115					-	-			785
							ggt Gly									833
gat	aaa	gee	gtt	gca	tcc	ggc	gtc	gta	gtc	gtt	gcg	gca	gec	ggt	aac	881

Asp Lys Ala Val Ala Ser Gly Val Val Val Val Ala Ala Ala Gly Asn 140 155												
gaa ggo nnn nnn ggo ago toa ago aca gtg ggo tao oot ggt aaa tao 929 Glu Gly Kaa Kaa Gly Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr 160 165 170												
est tot gto att goa gta ggo got gtt gac ago ago aac daa aga gca — 9// Pro Ser Val Ile Ala Val Gly Ala Val Asp Ser Ser Ash Glh Arg Ala 175 — — 180 — 185												
tot too toa ago gta gga oot gag ott gat gto atg goa oot ggo gta — 1025 Ser Phe Ser Ser Val Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val 190 — — 195 — — 200	;											
tot ato daa ago aog ott oot gga aad aaa tad ggg gog tad aad ggt — 1073 Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly 205 — — 210 — — 215	3											
acg toa atg goa tot dog dad git god gga gog got got itg att oft - 1121 Thr Ser Met Ala Ser Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu 225 - 230 - 235	-											
tot aag dad oog aad tyg aba aab act bas gto ogd agd agt tta nnn - 1169 Ser Lys His Pro Asn Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Kaa 240 - 245 - 250)											
aar acract aca aaa cht ggt gat tot tto tac tat gga aaa ggg ctg — 1017 Ash Thr Thr Thr Lys Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu 255 — 260 — 265	,											
Ato aac gta dag gog goa got dag taa aacataaaaa accggoottg 1264 The Ash Val Gln Ala Ala Ala Gln 275	ł											
geologicogg tittittatt titottooto ogoatgitoa atoogotooa taatogaogg 1324	:											
atggeteest etgaaaattt taaegagaaa eggegggttg acceggetea gteeegtaac 1384												
ggocaagtoo tgaaacgtot caatogoogo ttoooggttt coggtoagot caatgoogta												
adggtoggog gogttstoot gatadoggga gaoggdatto gtaatoggat o												
<pre>HQ10> 2 HQ11> 387 HQ12> PRT HQ13> Bacillus amyloliquefaciens HQ20> HQ21> VARIANT</pre>												
*:::::::::::::::::::::::::::::::::::::												
+0020> +0021> VARIANT +0222> (164)(164)												

```
-1223 Kaa = Pro or Asn
.(::::::) -
HIZUL - VARIANT
\{2.1.1 \cdot (167) \dots (167)
+2.13 + Maa = Asn or Asp
472233
- Carlant
32.1. + 195)...(195)
HILLS - Mas = Ala or Ser
-1.1.41
HILL VAFIANT
\pm 0.0.01 \pm (196) \dots (196)
+ilits + Mas = Ser or Ala
423.33
HILLI - VAFIANT
(2.05) \dots (2.05)
Milit - Maa = Ala or Asp
-1221--
THATTAN : IIII
+3.1...+(206)...(206)
Hala = Asp or Ala
412120 ×
SCHOOL VARIANT
<222> (265)...(265)
Would - Maa = Thr or Ser
-1229×
4221 > VARIANT
H2220 (266)...(266)
HOURS Maa = Ser or Thr
40.00
-221 VARIANT
%372 (355)...(358)
+1M M ⋅ Maa = Gln or Glu
-:400.
Met Arq Gly Lys Lys Val Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu
                                       10
The The Thr Met Ala Phe Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly
             20
                                   .25
Lys Ser Asn Gly Glu Lys Lys Tyr Ile Val Gly Phe Lys Gln Thr Met
        35
                              40
                                                    45
Ser Thr Met Ser Ala Ala Lys Lys Lys Asp Val Ile Ser Glu Lys Gly
                          55
Gly Lys Val Gln Lys Gln Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr
                      70
                                           75
10.51
Leu Asn Glu Lys Ala Val Lys Glu Leu Lys Lys Asp Pro Ser Val Ala
                  85
                                       30
Tyr Val Glu Glu Asp His Val Ala His Ala Tyr Ala Gln Ser Val Pro
```

Tyr	ЗІу	Val 115	Ser	Gln	Ile	Lys	Ala 120	Pro	Ala	Leu	His	Ser 125	Gln	Gly	Tyr
Tnr	31 y 13:)	Ser	Asn	Val	Lys	Val 135	Ala	Val	Ile	Asp	Ser 140	GLY	110	Asp	Ser
Ser 145	His	Pro	Asp	Leu	Lys 150	Val	Ala	Gly	Gly	Ala 155	Ser	Met	Val	Pro	Ser 150
Glu	Thr	⊠аа	Хза	Pn∈ 165	Gln	Asp	Жаа	Asn	3er 170	His	Gly	Thr	His	Val 175	Ala
Gly	Thr	Val	Ala 130	Ala	Leu	Asrı	Asn	Ser 135	Ile	Gly	Val	L⊕u	Gly 194	Val	Ala
Pro	Ser	Жаа 195	Маа	Lea	Tyr	Ala	Val 200	Lys	Val	Leu	Gly	Maa 205	Kaa	Gly	Ser
ЗГХ	Gla 310	Tyr	Ser	Trp	Ι <u>Ι</u> Θ	Ile 215	Asn	Gly	Ile	Glu	Trp 220	Ala	Ilo	Ala	Asn
Asn 225	Met	Asp	Vál	Ile	Asn 230	Met	Ser	Leu	Gly	Gly 235	Pro	Ser	Gly	Ser	Ala 240
Ala	Leu	Lys	Aia	Ala 245	Val	Asp	Lys	Alä	Val 250	Ala	Ser	Gly	Va.l.	Val. 255	Val
Val	Ala	Ala	Ala 260	315	Asn	Glu	Gly	Хаа 265	Kaa	Gly	Ser	Ser	Ser 270	Thr	Val
Sly	Туг	Pro 275	Gly	Lys	Tyr	Pro	Ser 180	Val	Ile	Ala	Val	Gly 335	Ala	Val	Азр
Ser	Ser 290	Asr.	Glin	Arq	Ala	Ser 295	Phe	Ser	Ser	Val	Gly 300	Frc	Glu	Leu	Asp
Val 305	Met	Ala	Pro	615	Val 310	Ser	Ile	Gln	Ser	Thr 3:5	Leu	Pro	Gly	Asn	Lуз 320
Tyr	617	Ala	Tyr	Asn 305	Gly	Thr	Ser	Met	Ala 330	Ser	Pro	His	Val	Ala 335	Gly
Ala	Ala	Ala	Leu 340	Πe	Le·u	Ser	Lys	His 345	Pro	Asn	Trp	Thr	Asn 350	Thr	G.l.n
Val	Arq	Ser 355	Ser	leu	Kaa	Asr.	Thr 360	Thr	Thr	Lys	Leu	Gly 365	Asr	Ser	Phe
Tyr	Tyr 370	Gly	Lys	GLY	Leu	Ile 375	Asn	Val	Gln	Ala	Ala 350	Ala	Gln		

-210 - 3

...11 - ...75

-1112 - FRT

*::13 · Bacillus amyloliquefaciens

1400 - 5

Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile Lys Ala Pro Ala Leu 1 5 10 15

His der Gln Gly Tyr Thr Gly Ser Asr. Val Lys Val Ala Val Ile Asp $20 \,$ $25 \,$ 30

Ser Gly The Asp Ser Ser His Pro Asp Leu Lys Val Ala Gly Gly Ala 35 40 45

Ser Met Val Pro Ser Glu Thr Asn Pro Phe Gln Asp Asn Asn Ser His 50 - 55 - 60 $^{\circ}$

G.y Thr His Val Ala Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly +5 70 75 80

Val Leu Sly Val Ala Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu Gly Ala Asp Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu 100 105 Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala 135 Ser Gly Val Val Val Val Ala Ala Ala Gly Asn Glu Gly Thr Ser Gly Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala 165 170 Val Gly Ala Val Asp Ser Ser Ash Glr. Arg Ala Ser Phe Ser Ser Val 130 135 Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser 215 Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Thr Lys 245 250 Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala 265 Ala Ala Gln 275

·1.:10 · 4

· 111 · 275

• 212 • PRT

< 400 - 4

Ala Gln Ser Val Pro Tyr Gly Ile Ser Gln Ile Lys Ala Pro Ala Leu 1 5 10 15

His Jer Gln Gly Tyr Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp 20 25 30

Ser Gly Ile Asp Ser Ser His Pro Asp Leu Asn Val Arg Gly Gly Ala 35 40 45

Ser Phe Val Pro Ser Glu Thr Asn Pro Tyr Gln Asp Gly Ser Ser His

50 55 60

Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ser Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu Asp Ser Thr Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu Trp Ala Ile Ser Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly 120 115 Pro Thr Gly Ser Thr Ala Leu Lys Thr Val Val Asp Lys Ala Val Ser 135 Ser Gly Ile Val Val Ala Ala Ala Ala Gly Asn Glu Gly Ser Ser Gly Ser Thr Ser Thr Val Gly Tyr Pro Ala Lys Tyr Pro Ser Thr Ile Ala 170 Val Gly Ala Val Ash Ser Ser Ash Glh Arg Ala Ser Phe Ser Ser Ala Bly Ser Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr 2(10) Lou Pro Gly Gly Thr Tyr Gly Ala Tyr Ash Gly Thr Ser Met Ala Thr 215 Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Thr Trp Thr Ash Ala Gln Val Arg Asp Arg Leu Glu Ser Thr Ala Thr Tyr 250 245

Ala Ala Gln

275

1.10 → 5

·211 274

12 PRT

4.113 Bacillus licheniformis

-:400:- 5

Ala Gln Thr Val Pro Tyr Gly Ile Pro Leu Ile Lys Ala Asp Lys Val

Leu Gly Asr. Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asr Val Gl
n Ala 260 265 270

Gln Ala Gln Gly Phe Lys Gly Ala Asr. Val Lys Val Ala Val Leu Asp

Thr Sly Ile Gln Ala Ser His Pro Asp Leu Asn Val Val Sly Sly Ala 4 (+ Ser Pho Val Ala Gly Glu Ala Tyr Asn Thr Asp Gly Asn Gly His Gly Thr His Val Ala Sly Thr Val Ala Ala Leu Asp Asn Thr Thr Sly Val 70 Leu Gly Val Ala Pro Ser Val Ser Leu Tyr Ala Val Lys Val Leu Asn Ser Ser Gly Ser Gly Ser Tyr Ser Gly Ile Val Ser Gly Ile Glu Trp 106 Ala The Thr Ash Gly Met Asp Val Ile Ash Met Ser Leu Gly Gly Ala Ser Gly Ser Thr Ala Met Lys Gln Ala Val Asp Asn Ala Tyr Ala Arg 135 Gly Val Val Val Val Ala Ala Ala Gly Asn Ser Gly Asn Ser Gly Ser 145 Thr Ash Thr Ile Gly Tyr Pro Ala Lys Tyr Asp Ser Val Ile Ala Val 165 170 Bly Ala Val Asp Ser Ash Ser Ash Ard Ala Ser Phe Ser Ser Val Gly 180 185 190 Ala Glu Leu Glu Val Met Ala Pro Gly Ala Gly Val Tyr Ser Thr Tyr Pro Thr Ash Thr Tyr Ala Thr Leu Ash Gly Thr Ser Met Ala Ser Pro 215 His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Leu Ser Ala Ser Gln Val Arg Asn Arg Leu Ser Ser Thr Ala Thr Tyr Leu 250 245

4

Ala Glr.

Gly Ser Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Glu Ala Ala 260 265 270

^{±0.100 €}

^{-:: 11 → 269}

HILLION PRT

^{+2213:} Pacillus lentus

^{-:4002 (}

Ala Gln Ser Val Prc Trp Gly Ile Ser Arg Val Gln Ala Prc Ala Ala 1 5 10 15

His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Ash Ile Arg Gly Gly Ala Ser 40 Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr His Val Ala Bly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu 7 [1 Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala 105 Gly Ash Ash Gly Met His Val Ala Ash Leu Ser Leu Gly Ser Pro Ser 115 120 125 Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly 135 Val Let Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser 155150 Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln 170 Asn Asr. Asn Ary Ala Ser Phe Ser Gin Tyr Gly Ala Gly Leu Asp Ile 155 Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr 195 200 Ala Ser Leu Ash Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala 215 Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile 230 235 240 Arg Ast. His Let Lys Ash Thr Ala Thr Ser Leu Gly Ser Thr Ash Leu

Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg 260 265

-11101- 11

·illi2: FRT

+22132 Artificial Sequence

245

-1.1201-

<2230 Lescription of Artificial Sequence: Synthetic

```
+(400 + 7)
Ile Lys Asp Phe His Val Tyr Phe Arg Glu Ser Arg Asp Ala Gly
                  5
                                     10
<210 € 8
<.111 + 15
<212 · PRT
<213 - Artificial Sequence
<2220 ×
<223 Description of Artificial Sequence: Synthetic</p>
<1400 - 8
Lou Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val
 1 5
<210> 9
<211> 15
-0212> FET
<213> Artificial Sequence
30000 \sim
+3235 Description of Artificial Sequence: Synthetic
4400.49
Ala Glm Ser Val Pro Trp Gly Ile Ser Arg Val Glm Ala Pro Ala
            <u>.</u>
<210> 10
<2115 15
4212> PFT
<213> Artificial Sequence
· 2.200.
<2235 Description of Artificial Sequence: Synthetic</pre>
\pm 4000 - 10
Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn
-12101-11
√211≥ 15
HOLDS PFT
+22133 Artificial Sequence
· * 1 * 1 * 1
HILLS: Description of Artificial Sequence: Synthetic
Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu
        5
                                      10
```

```
·(210 · 12
41.111 - 15
\pm 0.12 \pm \text{PRT}
3.13 Artificial Sequence
Hull: Description of Artificial Sequence: Synthetic
4400 - 10
Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser
                          10
\pm 0.116 \pm 13
\pm 1.111 \pm 15
HULL PET
4213 Artificial Sequence
· 1.20
+2227 Description of Artificial Sequence: Synthetic
R400% 13
Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys
40.10 \pm 14
<211 - 15
<::130 Artificial Sequence</pre>
-(12)0>
HIBB: Description of Artificial Sequence: Synthetic
<400% 14
Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val
                                        10
-0710× 15
< 11 > 15
· . 1. · PFT
+213 Artificial Sequence
4000 m
<223> Description of Artificial Sequence: Synthetic
<400.5
Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr
·010/ 16
\leq 211 \pm 15
\cdots 1.1 \cdots \text{ PFT}
+213 Artificial Sequence
```

```
<2231>
(22) Description of Artificial Sequence: Synthetic
Right - 16
The Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
                                        10
 1
                   Ε,
\pm 1.1170 \pm 1.7
\pm 0.111 \pm 15
HOID - PET
HAMILY Artificial Sequence
HAMBY Description of Artificial Sequence: Synthetic
-1400 - 17
Gly Vai Lys Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro
                                   10
\pm 0.10 \pm 16
\pm 0.111 \pm 15
4212 - PET
3213 Artificial Sequence
4.23 - Lescription of Artificial Sequence: Synthetic
414000-19
Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn
-0.00 \cdot 19
<:211 \ 15</pre>
HARLEY PFT
3213 · Artificial Sequence
·1. . O ·
HILLS - Description of Artificial Sequence: Synthetic
- 400 to 19
Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly
                                                               15
                                        10
\cdot \in (0, + 20)
4...111- 15
·Ll: FFT
Artificial Sequence
11 (1)
Filler Tescription of Artificial Sequence: Synthetic
+14001 / 20
```

```
Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
.:2105 .:1
H211 - 15
SULLE PRT
HILL Artificial Sequence
-12.10 -
4400 - 11
Prin His Pro Asp Leu Asn lle Arg Gly Gly Ala Ser Phe Val Pro
H210 + 22
\pm 1211 \pm 15
\pm 1.11.1 \pm \pm 1.1T
40013 - Artificial Sequence
-12.10
HARTY Description of Artificial Sequence: Synthetic
Asy Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro Gly Glu Pro
                  5
                                     10
4.710 \pm .73
·211 - 15
KIND - FFT
4213 - Artificial Sequence
81.12 O F
<223 - Description of Artificial Sequence: Synthetic</p>
The Arg Gly Gly Ala Ser Phe Val Pro Gly Glu Pro Ser Thr Gln
1
                 5
                                     10
-1.110 - 1.4
<...11 - 15
·.. 1.. · FFT
400130 Artificial Sequence
H. Lab Description of Artificial Sequence: Synthetic
G.7 Ala Ser Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn
                  5
                                                         15
                                     10
```

K2102-25

```
-:211 · 15
-1111 - PRT
· 113 · Artificial Sequence
1330
<223 · Description of Artificial Sequence: Synthetic</pre>
4400 - 25
Phe Va! Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly
-1.111-
\pm 1211 + 15
+21.0 + PET
+215 - Artificial Sequence
41<u>22</u>0 4
+2.33 Description of Artificial Sequence: Synthetic
7.40百岁 [56]
Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr His Val
                    Ε,
4:210 × 27
\pm 211 \times 15
HIDDA FRT
RILLS Artificial Sequence
41220b
42.33 Description of Artificial Sequence: Synthetic
R4005 27
Ser Thr Gln Asp Gl; Asn Gly His Gly Thr His Val Ala Gly Thr
                    5
-0110 - 13
\cdot 1.111 \cdot 110
\ell^2 \mathbb{D} 1 \mathbb{D} \times \mathbb{PPT}
+213 Artificial Sequence
-J2207
HILDS: Description of Artificial Sequence: Synthetic
-14000-118
Asp Gly Asn Gly His Gly Thr His Val Ala Gly Thr Ile Ala Ala
-0.70 no. 1 14
- 11 · 15
HILL PFT
H213 Artificial Sequence
-1220.4
```

```
1223 · Description of Artificial Sequence: Synthetic
4400 - 29
Gly His Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn
                  C,
                                       10
G210. 30
00115 15
PLT: PET
+213 - Artificial Sequence
-2233 Description of Artificial Sequence: Synthetic
-:4005 30
Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly
 1
                                       10
4010 - 31
<2115-15
KITIPH PRT
+1113 + Artificial Sequence
<dm3> Description of Artificial Sequence: Synthetic
<400≥ 31
Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly
                   С,
                                       10
<210> 32
<211 > 15
SOLOS PET
<213> Artificial Sequence
+1:23. Description of Artificial Sequence: Synthetic
4400.432
Ilo Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
                  5
K010.- 33
<211> 15
\{1,2,2,2,2,3\} \in F_{i}(T)
H.113 Artificial Sequence
\pm 223 \cdot Description of Artificial Sequence: Synthetic
+1400 + 33
Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Ala Glu
                                       10
```

```
K2105 34
-1.311 \cdot 15
4.11. · PRT
4.113 Artificial Sequence
- 1.3.jr -
3.23 Description of Artificial Sequence: Synthetic
Ser lie Gly Val Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala
                  5
                                      1.0
+210 + 35
·211 · 15
HILLS FRT
42213 - Artificial Sequence
Halls - Description of Artificial Sequence: Synthetic
-1400 - 35
Mai Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val
                  5
4010 + 36
42112-15
<.dl2> PRT
· .:13 · Artificial Sequence
Sanitable Description of Artificial Sequence: Synthetic
Vil Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
1,...
                  5
                                      10
-1.1101- 37
·:::11: 15
WIII FRT
<!!!!> Artificial Sequence
-11.13 Description of Artificial Sequence: Synthetic
1100 37
Sor Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser
                  5
1
                                      10
-210% 38
111:- 15
HU120 PRT
```

```
<213 Artificial Sequence
R2231+
11123 - Description of Artificial Sequence: Synthetic
4400 - 58
Let Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val
                   6.
                                      1.0
H210 - 39
40111 × 13
41.11.4 F.F.T
Hill: Artificial Sequence
41.1. O 4
HOLD: Description of Artificial Sequence: Synthetic
<400 × 39
Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile
                   Ę,
                                        10
1.110 - 40
\pm 1.11 \pm 15
\cdot \ \ \vdots \ \ \vdots \ \ \ \cdot \ \ F \ F . T
4.13 Artificial Sequence
Hall3 · Description of Artificial Sequence: Synthetic
<400 - 40</p>
Lou Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly
 5
4210.41
211 - 15
1212 FFT
Artificial Sequence
-11-11
HALL - Description of Artificial Sequence: Synthetic
+14000 + 41
Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp
                                       10
301101-42
41.11.15
H. LITT
·.l: Artificial Sequence
40.200-
<225. Description of Artificial Sequence: Synthetic
```

```
<4005 40
Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala Gly Asn
                                     10
\pm 1310 \pm 43
0211 - 15
HO10 - PRT
+213 · Artificial Sequence
3122A -
*MANY Description of Artificial Sequence: Synthetic
<400 - 43
Ser Ser Ile Ala Gla Gly Leu Glu Trp Ala Gly Asn Asn Gly Met
1.
                                     10
<0.150\times~44
40011 - 15
HOLD - FET
+2213 - Artificial Sequence
:220
3223 Description of Artificial Sequence: Synthetic
<400 · 44
Ala Gln Gly Leu Glu Trp Ala Gly Asn Asn Gly Met His Val Ala
<3108 45
4.111 \pm 15
WOIL PRT
*:::3 · Artificial Sequence
Halfis - Description of Artificial Sequence: Synthetic
4400 - 46
Leu Glu Trp Ala Gl; Asn Asn Gly Met His Val Ala Asn Leu Ser
                                      10
-1210 - 4€
-211 \times 15
..... PET
Malla · Artificial Sequence
+22.3 - Description of Artificial Sequence: Synthetic
- 400 - 46
Ala Gl; Asn Asn Gl; Met His Val Ala Asn Leu Ser Leu Gly Ser
                                      10
```

```
·1.210 · 47
1.111 - 15
1111 - PRT
-213 · Artificial Sequence
-122m-
HAMBY Description of Artificial Sequence: Synthetic
-(400 + 47)
Ash Gly Met His Val Ala Ash Leu Ser Leu Gly Ser Pro Ser Pro
               5-1
                                 1.0
-000-48
H211 - 15
HILL PET
<!213 - Artificial Sequence</pre>
All. Description of Artificial Sequence: Synthetic
-3400 + 48
His Val Ala Asn Le: Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr
                                      1:)
+1.110 + 49
+111 + 15
· DII · PFT
<!?!? Artificial Sequence</pre>
3.3> Description of Artificial Sequence: Synthetic
<4005 49
Ash Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln
                                       10
 1.
...11 - 15
· Lli: PFT
3213 Artificial Sequence
+ 223 - Description of Artificial Sequence: Synthetic
+14000 - 50
Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn
                                       10
 1
· 2100 · 51
\pm ...111 \pm 15
·:::1::: PFT
*21.3 Artificial Sequence
```

```
<2205
<223 - Description of Artificial Sequence: Synthetic
<40: 51
Pro Jer Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr
                            10
\pm 0.15 \pm 5.2
\pm 0.011 \pm 15
HALL PRT
4213 - Artificial Sequence
-1.1.2 a -
3223 Description of Artificial Sequence: Synthetic
-(4J)0 - 52
Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
                 5,
                                     1.0
F1210 - 53
31.111 · 15
+1212 + PET
+213 - Artificial Sequence
3220 ×
2003 - Description of Artificial Sequence: Synthetic
-3400 - 53
Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val
 1 5
<.:10 - 54
· .:11 · 15
HOLD - FET
-:::3 · Artificial Sequence
-4.1. () -
Hall's - Description of Artificial Sequence: Synthetic
Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala
                               1:0
+010> 55
-11 15
HILL FFT
-1113 Artificial Sequence
11.
-2223 Description of Artificial Sequence: Synthetic
-:400:- 55
Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn
```

```
1
                5
                                     10
                                                          15
3210 - 56
1211 - 15
-0012 - PET
Add - Artificial Sequence
-1212-1-
H223 - Description of Artificial Sequence: Synthetic
-1400 - 56
Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala
                             1)
-0.10 - 37
\pm 1.01,1 \pm 15
·:21L · FET
3213 Artificial Sequence
3270
RELATION TESCRIPTION of Artificial Sequence: Synthetic
-14 11 - 157
Val Let Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile
41.10 - 58
<211 - 15
4212 - PFT
H213 - Artificial Sequence
- 2233
H223 - Description of Artificial Sequence: Synthetic
-1400 - 58
Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro
 1 5
+ 21:00 - 59
· 2111 · 15
· .:1... FFT
1.13 Artificial Sequence
× 2200×
+LTX+ Lescription of Artificial Sequence: Synthetic
- 4mm - 59
Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr
                                     10
```

+210 + 60 -2112 15

```
-:212 · PET
-0213 - Artificial Sequence
4123 I+
HILLS - Description of Artificial Sequence: Synthetic
+(4i)0 + 60
Ser Gl; Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala
\times 210 \times 61
c0.111 \times 1^{\circ}
+121 \pm \cdot \pm \pm T
Gul ( Artificial Sequence
K223 - Pescription of Artificial Sequence: Synthetic
<400 - 61
Sly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
\pm 0.210 \pm 60
-:211 - 1°
-1111 - PFT
-1317 Artificial Sequence
MANNA Description of Artificial Sequence: Synthetic
- 4000 - 62
Sor Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr
 1...
+ 21 Hz 63
-211: 15
-111 PT
+ 113 Artificial Sequence
FAMILY Description of Artificial Sequence: Synthetic
44600 (3
Ala Arq Tyr Ala Asr Ala Met Ala Val Gly Ala Thr Asp Gln Asn
            5
                                        10
101-64
-17117 10
HOTTO FET
Hall of Artificial Sequence
HILD: Description of Artificial Sequence: Synthetic
```

<100 54 Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg 5 10 +2219 + 65+1.211 - 15-213 · PRT -213 · Artificial Sequence -12201-H224 Description of Artificial Sequence: Synthetic - 400 m Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe -210 - 66 +211 > 15 -Dids PET +313 · Artificial Sequence A. . . Pescription of Artificial Sequence: Synthetic 44111 - 66 Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr 1... 5 10 <210 + 67 4011 - 15 4212 / PFT 3213 Artificial Sequence - 1220 · +223 - Description of Artificial Sequence: Synthetic -1400 - 67Asp Glr Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly -1.110 - 68 .211. 15 $\cdot 11121 \cdot \text{ FFT}$ -0.113 Artificial Sequence MANNO Lescription of Artificial Sequence: Synthetic Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile 5 10

```
321 rs 69
 <211 - 15
 <.11 · PRT
 4.13 Artificial Sequence
-0000 H
  1923 - Description of Artificial Sequence: Synthetic
 100 · 63
 Ala Ser Phe Ser Glm Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro
                                                                                                                      10
 + \frac{1}{2} \left( \frac{1}{2} + \frac{1}{2} \right) \left( \frac{1}{2} + \frac
 4. 11 · 15
 0111 FET
 All3 - Artificial Sequence
1.1.10
All. Description of Artificial Sequence: Synthetic
 +(400 \times 70)
 Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn
                                                                                        Ē,
-::1:1 - 71
 4..11 - 15
·1112 • FF.T
<213  Artificial Sequence</pre>
<2200 ·
RADAR Description of Artificial Sequence: Synthetic
 Gly Ala Gly Leu Asr Ile Val Ala Pro Gly Val Asn Val Gln Ser
                                                                                                                                                                    10
F210: 72
.13111 15
HU12 FFT
+333 Artificial Sequence
H2235 Description of Artificial Sequence: Synthetic
 Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro
                                                                                                                                                                    10
+210:-73
.211: 15
HILLIEF PET
*213: Artificial Sequence
```

<320≥ CARN Description of Artificial Sequence: Synthetic (4.00 ± 7.3) Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr 10 1210 - 74 00011 · 15 4211 - FF.T Hally Artificial Sequence ALM3 - Description of Artificial Sequence: Synthetic 4400 · 74 Ally Val Ash Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Ξ, 10 -1.110 - 75 4211 - 15 COLL OFFI Hulls - Artificial Sequence ALLY Description of Artificial Sequence: Synthetic .400 - 75 Val Glm Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly 10 4.1100-76 HIR112 15 HARLES FET Hills: Artificial Sequence HOLF Description of Artificial Sequence: Synthetic -14 ac. - 76 Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met 1 () -12100-77 -1.1111- 15 · Ti. TFT Hill: Artificial Sequence +220x Description of Artificial Sequence: Synthetic +:4.00 → 77

Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro ₹210 - 78 ·211 - 15 HILLS PRT 37.13 Artificial Sequence -12205 223. Description of Artificial Sequence: Synthetic Tyr Ala Ser Leu Asr. Gly Thr Ser Met Ala Thr Pro His Val Ala <210 - 79 <211 · 15 SU12 - PET <213 · Artificial Sequence <:223 • Description of Artificial Sequence: Synthetic</pre> <400 - 79 Leu Ash Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala ני 1 K0102-80 <211> 15 KOLLAN PET <213> Artificial Sequence <!203> Description of Artificial Sequence: Synthetic <4005 80 Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val 1 5 10 <210> 81 <211> 15 <2125 FFT <2113 Artificial Sequence Clid
Sequence: Synthetic -:400. 81 Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys 1 10

·110 - 82

```
.:211 - 15
HR12 PRT
4213 A:tificial Sequence
3.1.10 ·
Main's Description of Artificial Sequence: Synthetic
44.10 - 8.1
Bly Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser
                        1 )
P010 - 83
10.111 1 15
· ...ll - FFT
3213 Artificial Sequence
4000
H223 · Description of Artificial Sequence: Synthetic
-3400 \times 83
Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn
1 5
-1.110 - 84
+211 \times 15
-31. · FFT

Artificial Sequence
ki<u>jj</u>an,
+223 + \text{Description} of Artificial Sequence: Synthetic
<400 - 84
Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
                5.
                        10
3.3 < 0.75 >
<2110-15
<211 · FFT
<.:13   Artificial Sequence</pre>
K2205
<223> Description of Artificial Sequence: Synthetic
-:400 - 85
Lys Glr. Lys Asn Pro Ser Trp Ser Val Asn Gln Ile Arg Asn His
- 2101-86
kJ115 15
42125 PFT
3213> Artificial Sequence
-12201-
```

422 - Description of Artificial Sequence: Synthetic 1410 - 66 Asn Pro Ser Trp Ser Asn Val Gln Ile Arg Asn His Leu Lys Asn 5 1.0 3310 · 87 $\pm 211 \pm 15$ -1212 - FET 0213 - Artificial Sequence *2223 - Description of Artificial Sequence: Synthetic -1400 - 87 Trp Ber Asn Val Gln Ile Arg Asn His Leu Lys Asn Thr Ala Thr 1:) +210% 88 $\pm 1211 \pm 15$ WILLS FFT 4213 · Artificial Sequence -3.5 (i) \sim 42232 Description of Artificial Sequence: Synthetic $+(4.10) \times 88$ Val Glr. Ile Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly 1 1:0 2210 s 89 <211> 15 <212 * PRT <213> Artificial Sequence HAME: Description of Artificial Sequence: Synthetic 4400. 89 Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn €. 100 - 90 11> 15 -11121 PET +212 Artificial Sequence +1000 (n) + +3333 Description of Artificial Sequence: Synthetic -1400:- 90 Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly 1 5 10

```
₹3140 91
\pm 211 + 15
HO11 - PRT
+213 · Artificial Sequence
00220 -
+ ....) - Description of Artificial Sequence: Synthetic
540a - 91
Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu
                Ę
-211 - 15
-1212 - FRT
Hilly Artificial Sequence
+223 · Description of Artificial Sequence: Synthetic
F400 - 92
Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala
                  5,
1
                                       10
...111 - 93
\pm 1211 \pm 15
-1.11.1 - FFT
-1213 Artificial Sequence
*223 * Description of Artificial Sequence: Synthetic
F100> 93
Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala
- 2160- 94
-2112-15
COLD FRT
+%130 Artificial Sequence
+ 223 Description of Artificial Sequence: Synthetic
- 4000- 94
Ash Leu Tyr Gly Ser Gly Leu Val Ash Ala Glu Ala Ala Thr Arg
·:: 100 - 95
·001110 15
HIZIDE FET
```

-:2125 Artificial Sequence -)) . . . $\pm 227 \pm \text{Description}$ of Artificial Sequence: Synthetic 4400 - 95 Asp Ala Glu Leu His lle Phe Arg Val Phe Thr Asn Asn Gln Val 10 +.110 + 96 +211 - 15-1217 - FET +21: Artificial Sequence 4/226 k +223 - Description of Artificial Sequence: Synthetic 4400,- 96 Pro Leu Arg Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His 10 £, -21n - 97 -12112- 15 <!dl. FFT</pre> +213 · Artificial Sequence -:225% *MM3> Description of Artificial Sequence: Synthetic <400 × 97 Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly -1.110- 98 <211 - 15 · FFT +2135 Artificial Sequence * 1 F.M. 3: Description of Artificial Sequence: Synthetic 2400.4 98 Less Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly Arg His Ser -110: 99 · . 1. · FF.T · Lilai Artificial Sequence 12200 +223 Description of Artificial Sequence: Synthetic

```
<400 > 99
Bly Ser Gly Phe Trp His Ala Thr Gly Arg His Ser Ser Arg Arg
           ۳,
                       1) 15
+0.210 \cdot 100
1211 - 15
-1.11.1 + \mathrm{FFC}
-2213 · Artificial Sequence
-122.1 -
A.M.3 · Description of Artificial Sequence: Synthetic
+4.50 - 160
Fire Frp His Ala Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg
                                    1.0
<210 \times 101
<211 - 15
KOID - PPT
-0213 - Artificial Sequence
HARRY Description of Artificial Sequence: Synthetic
\pm 400 \cdot 101
Ala Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro
                         10
+1210 × 102
· 211 - 15
SIDIDS FFT

<213</pre>
Artificial
Sequence
<2220 -
<223 - Description of Artificial Sequence: Synthetic</p>
<400.102
Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln Val
1 5
-JJ100-103
1.1111 15
· 2113 FFT
+213 Artificial Sequence
·00.200>
-3323> Description of Artificial Sequence: Synthetic
.400> 103
Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln Val Ala Gln Thr
 1
                 5
                                     10
```

```
\pm 0.210 \pm 104
11.11: 15
41.11 PRT
+2213 - Artificial Sequence
41.130 F
#223 Description of Artificial Sequence: Synthetic
\pm 1400 \times 104
beu beu Arg Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala
                                        10
-0.110 - 105
1111 · 15
111111 PF.T
<013 Artificial Sequence</pre>
Fills - Description of Artificial Sequence: Synthetic
-400 - 105
Ala Ile Pro Arg Glm Val Ala Glm Thr Leu Glm Ala Asp Val Leu
 1
                                        10
+1.10 + 106
\times 1111 + 15
4...1.1 · FF.T
<113 Artificial Sequence
<223 Description of Artificial Sequence: Synthetic</pre>
-14000-106
Arg Glr. Val Ala Glr. Thr Leu Gln Ala Asp Val Leu Trp Gln Met
                                        10
-::1UE- 107
\pm ...11 \succ 15
HARLES PRT
Artificial Sequence
ALLY Description of Artificial Sequence: Synthetic
-14000 - 107
Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr
                                        1.0
1
-1.10 - 108
...111 15
·:::1...· PFT
1218 Artificial Sequence
```

·:3333 · ALMNY Description of Artificial Sequence: Synthetic 44 10 - 103 Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr Gly Ala Asn ٤, 10 4010 - 109 $\pm 0.011 \pm 15$ HARL PET 3213 - Artificial Sequence 1.1 Hally Description of Artificial Sequence: Synthetic $\times (400 \times 100)$ Asp Val Leu Trp Glr. Met Gly Tyr Thr Gly Ala Asn Val Arg Val ٤, 10 -1.11 + 110121: 15 $-0.01\,L_{\odot} + FF,T$.11 Artificial Sequence 4 (1.1. O 4. +223 - Description of Artificial Sequence: Synthetic <400° 110 Trp Glr. Met Gly Tyr Thr Gly Ala Asn Val Arg Val Ala Val Phe 5 10 4.010 - 111 .111 15 4217 / PFT Antificial Sequence 1.15 And By Description of Artificial Sequence: Synthetic Gly Tyr Thr Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly 10 · 111.00 · 112 -1111 15 -12111: FFT -22130 Artificial Sequence +0.11 Of a +2233 Description of Artificial Sequence: Synthetic <400: 112 Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu

1 5 10 15

1.11 · 113 -1.11 · 15

+M10 · PRT +M13 · Artificial Sequence

-:::20 -

+223 · Description of Artificial Sequence: Synthetic

4400 - 113

Val Arg Val Ala Val Phe Asp Thr Gly Lea Ser Glu Lys His Pro 10 15

+210 + 114 +211 + 15 +215 + PET

4.11 Artificial Sequence

an tage.

#223 - Description of Artificial Sequence: Synthetic

(400 + 114)

Ala Val Phe Asp Thr Gly Leu Ser Glu Lys His Pro His Phe Lys l $_{\rm 10}$ $_{\rm 10}$ $_{\rm 15}$

(213 - 115 -1111 - 15 -211 - FRT

Color Artificial Sequence

en en

HAMPY Description of Artificial Sequence: Synthetic

4400-115

Asp Thr Gly Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys 10 15

<010x 116
+0112x 15
+0010x PFT</pre>

+015 Artificial Sequence

* (1)

4.23 Description of Artificial Sequence: Synthetic

44000 116

Lou Ser Glu Lys His Pro His Phe Lys Asn Val Lys Glu Arg Thr
1 5 10 15

<d:100 117</pre>
<211> 15

```
40125 FRT
4.:13 Artificial Sequence
- 22 12-
HARDS Description of Artificial Sequence: Synthetic
14 (0) 117
Lys His Pro His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr
                                      10
100 119
1.1111 15
·Jillar FFT
AMB Artificial Sequence
HIBBS: Description of Artificial Sequence: Synthetic
44000-118
His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Arg
                  Ε,
                                       10
02100-119
#1111 + 15
+ 212 + FFT
1713: Artificial Sequence
ALM3: Description of Artificial Sequence: Synthetic
-04000 119
Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp
<2100 120</pre>
·2111 · 15
·1111 FF.T
HOLDE Artificial Sequence
H223: Description of Artificial Sequence: Synthetic
+14000 120
Glu Arg Thr Ash Trp Thr Ash Glu Arg Thr Leu Asp Asp Gly Leu
42109-121
·1.111 15
FFT FT
<!213 Artificial Sequence</pre>
H223> Description of Artificial Sequence: Synthetic
```

```
<400 > 1.1
Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly
             5
                                      10
-0.010 \cdot 102
0.111 - 15
+3.1_{-} · PET
All: Artificial Sequence
-1230-
HUUD: Description of Artificial Sequence: Synthetic
+4.00 \times 1.72
Ash Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val
                 c,
                                      10
<210 - 1.3
<011 > 15
2010 - PRT
*:213  Artificial Sequence
40020 A
<223 Description of Artificial Sequence: Synthetic</p>
-1400 - 123
Thr Leu Asp Asp Gl; Leu Gly His Gly Thr Phe Val Ala Gly Val
                                      10
< 210 > 1.4
4211> 15
+212: PET
-13135 Artificial Sequence
+223> Description of Artificial Sequence: Synthetic
4.00 - 1.14
Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser
                                     10
30102 125
<211> 15
CLIC> PRT
+13132 Artificial Sequence
H1113> Description of Artificial Sequence: Synthetic
+1400 > 125
Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu
                                      10
```

```
\pm 2.2109 - 126
1.211 - 15
:011. · PRT
3.21 - Artificial Sequence
.100 1.
MARK - Description of Artificial Sequence: Synthetic
4400 - 126
The Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly
                                       10
10 10 - 107
4011 - 15
4010 - PRT
Hill: Artificial Sequence
-1.1.20 -
Addit - Description of Artificial Sequence: Synthetic
-1400 - 127
Alt Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro
                   5
                          10
\pm 0.10 \pm 118
1.11 11
\pm 1.112 \pm \mathrm{FRT}
3.13 · Artificial Sequence
HDDA: Description of Artificial Sequence: Synthetic
-1400 \cdot 113
ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu
1.
                   5
Fidio, - 129
+211:- 15
· Lliv FFT
+111 Artificial Sequence
422.75
* MIN Description of Artificial Sequence: Synthetic
-4000 129
Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu His Ile
                   5
                                      10
· ..100 136
· ..11 · 15
1.111 PRT
<213> Artificial Sequence
```

<2221-HELLS: Description of Artificial Sequence: Synthetic -400 130 Eys Glr. Gly Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val 10 40.10×131 111 - 15 ·L11 · FET Mil: Artificial Sequence 30 Day Hald - Description of Artificial Sequence: Synthetic 4400 - 131 Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn 10 $\pm 1.10 \pm 13.1$ 1.11 15 $\pm 0.0100 \pm \mathrm{FFC}$ Halls - Description of Artificial Sequence: Synthetic 6400×130 ${\rm Asp}$ Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val 10 $< .110 \times 133$ 4.11 - 15 -:::1.: - FFT 4213 - Artificial Sequence HLDB Description of Artificial Sequence: Synthetic 44000 133 Let His Ile Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr 10 $\cdot 0.109 \cdot 134$ ·...11: 15 ...i. FF.T +01: Artificial Sequence *22.3 Description of Artificial Sequence: Synthetic <400% 134

Pho Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp Phe 4.110 - 135 :::11 + 15 -limit + FFTHARRY Artificial Sequence 40020 × <!23 - Description of Artificial Sequence: Synthetic</pre> -04000 135 Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala 10 ·010> 136 <.111 - 15 $\cdots . 1.1.1 + FFT$ 3.13 Artificial Sequence ·(...20) · HLLB. Description of Artificial Sequence: Synthetic 4400 - 136 Asn Glr. Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr 1 10 4.110> 137 <211> 15 1. > PFTArtificial Sequence <...0> 3223> Description of Artificial Sequence: Synthetic -.400> 137 Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu +.110 + 13812.11 - 15 $\cdot 1212 \times FFT$ -1113 Artificial Sequence F1020 × -MAG- Description of Artificial Sequence: Synthetic Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu Lys Lys Ile 5. 10

HI210/ 139

```
<311> 15
<210 PET
4213 Artificial Sequence
42.50 -
32.3 Description of Artificial Sequence: Synthetic
4400 - 159
Leo Asp Ala Phe Ash Tyr Ala Ile Leo Lys Lys Ile Asp Val Leo
\pm 0.010 \times 140
.1111 - 15
4212 - FET
%213 - Artificial Sequence
40.1.10.4
+213 · Description of Artificial Sequence: Synthetic
4430 - 140
Phe Ash Tyr Ala Ile Leu Lys Lys Ile Asp Val Leu Ash Leu Ser
                         10
-1.10 \cdot 141
\pm 211 + 15
WALLS FET
+213 · Artificial Sequence
4220 ·
+113> Description of Artificial Sequence: Synthetic
-400> 141
Ala Ile Leu Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly
             5
                                       10
+210× 142
...11 . 15
\times 212 \times \text{PRT}
-213> Artificial Sequence
+22.23> Description of Artificial Sequence: Synthetic
\pm 3400 > 142
Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe
1. 5
4010 - 143
...11 . 15
\text{-Lill} \cdot \text{PFT}
4.13> Artificial Sequence
-1220.-
```

<223> Description of Artificial Sequence: Synthetic 24015 143 Amp Wal Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His Ę, 10 -1.1.1 - 144 $\pm (2111 + 15)$ -1.1.1 FRT 32135 Artificial Sequence Halls - Description of Artificial Sequence: Synthetic $\pm 1100 \pm 114$ Ash Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val 10 $+0.10 \cdot 145$ 41.11 - 15 HARLEY FRT Hills Artificial Sequence Fig. : Description of Artificial Sequence: Synthetic <1400 - 145 Le Gly Gly Pro Asp Phe Met Asp His Pro Phe Val Asp Lys Val +.110 + 146· 211 · 15 -111 - PET 4.13 · Artificial Sequence HILL: Description of Artificial Sequence: Synthetic -(400 + 146 Pro Asp Fhe Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu $\pm (210 \pm 147)$.111 15 · II I · FET 4.13 Artificial Sequence Hallar Description of Artificial Sequence: Synthetic · 400 × 147 Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn 5 10

```
H21Th 143
-1.111 - 15
HILL: PRT
321 - Artificial Sequence
G220 +
HAMA: Description of Artificial Sequence: Synthetic
Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile
                5)
                                       10
301 - 149
\pm 211 + 15
CULLY PAT
42213 - Artificial Sequence
x,]_10 ×
Hall . Description of Artificial Sequence: Synthetic
6400 \cdot 149
Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser
               ۲)
\pm 210 \cdot 150
-:::11 - 15
-211 · FFT
HD13 - Artificial Sequence
HIMB: Description of Artificial Sequence: Synthetic
-1400 - 150
Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile Gly
                 5,
                                      10
\pm 0.110 \pm 154
-1.111 - 15
-211 - FFT
+213 Artificial Sequence
HIPB: Description of Artificial Sequence: Synthetic
-1400. 151
Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile Gly Asn Asp Gly
1
                  5
                                       10
4..10. 152
11111111
H212: PRT
```

-0013 Artificial Sequence -1.12.1 -H223 - Description of Artificial Sequence: Synthetic +400+ 152 Asm Val Ile Met Val Ser Ala Ile Gly Ash Asp Gly Pro Leu Tyr 10 -1.15 153 ...11 - 15 HARLEY PRI 3213 - Artificial Sequence - 220 -+323> Description of Artificial Sequence: Synthetic H400> 153 Mot Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Ile 10 -0210 > 184 ·3311 > 15 · Nill · PET +313 · Artificial Sequence 47.70 × +323 · Description of Artificial Sequence: Synthetic <400 · 154 Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro ·210 · 155 <211 · 15 +1212 + FF/T +213 - Artificial Sequence -0.00 OL--1703 Description of Artificial Sequence: Synthetic 74005 155 Ash Asp Gly Fro Leu Tyr Gly Thr Leu Ash Ash Pro Ala Asp Gln -"2100- 156 -11127 FFT Artificial Sequence ·(_10)(0)· :223: Description of Artificial Sequence: Synthetic

<400 156 Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln Met Asp Val 5 1.3 <210 · 157 4.111 - 15 HALL FRT Hall3 - Artificial Sequence H223 Description of Artificial Sequence: Synthetic 41111 - 157 Bly Thr Leu Asn Asr. Pro Ala Asp Gln Met Asp Val Ile Gly Val 1.) $+0.010 \times 158$ 4211 - 15 +0.1.1 + PETHD13 - Artificial Sequence -1.1.10 × ALGO: Description of Artificial Sequence: Synthetic 7400 - 158 Asn Asr. Pro Ala Asr Gln Met Asp Val Ile Gly Val Gly Gly Ile 10 <210 - 159 <3112 15 KOLDA PRT <213> Artificial Sequence <223 Description of Artificial Sequence: Synthetic <400 - 159 Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile Asp Phe Glu 1.0 42100-160 ·1.111 15 H2122 FRT -2135 Artificial Sequence -1.000HEBB: Description of Artificial Sequence: Synthetic 1400: 160 Met Asp Val Ile Gl; Val Gly Gly Ile Asp Phe Glu Asp Asn Ile 10

```
<2179 161
<:11 - 15
<.:11 + PET
<::1: A:tificial Sequence</pre>
11.100
HARDS - Description of Artificial Sequence: Synthetic
\pm 4.40 \pm 161
The Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe
1.14 - 172
\pm 1.11 \pm 1^{\circ}
\{1.111.7 + PF/T
HD13 - Artificial Sequence
-1.1.10
Hamily Description of Artificial Sequence: Synthetic
Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg
                                         1.0
\pm 0.110 \pm 1.63
\pm 211 \pm 15
HOID - FFT
Hills - Artificial Sequence
*173 * Lescription of Artificial Sequence: Synthetic
\pm 1400 \times 163
Asp Phe Glu Asp Asr. Ile Ala Arg Phe Ser Ser Arg Gly Met Thr
                    Ę,
                                         10
40.10 \pm 164
\pm 0.111 \pm 15
1.11. FFT
H.13 · Artificial Sequence
H2233 Description of Artificial Sequence: Synthetic
4400 164
Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu
                                         10
1010 105
1.11. 1!
-1.121- PFT
*215 Artificial Sequence
```

::2218 +223 - Description of Artificial Sequence: Synthetic +(4.)0 + 1.65Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly 10 +2210 + 166+0.11 + 15Hall PRT +213 - Artificial Sequence HARRY Description of Artificial Sequence: Synthetic $+.400 \times 166$ Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr Gly ⊑. + 210 + 147 + .211 + 14WOLD - FRT HU13 - Artificial Sequence -1220 -ALLE: Description of Artificial Sequence: Synthetic -1400x 167 Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys H2100-168 <2111 15 · DID · FFT 22130 Artificial Sequence (([[][]]))-(2008) Description of Artificial Sequence: Synthetic <4000-163 The Trp Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile 10 72100 169 4.1111-15 HARLE FET HOLD Artificial Sequence 12011 HON NO Description of Artificial Sequence: Synthetic 44000-169 Leu Prc Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr

1 5 10 15

```
-:210 · 170
\cdot 211 \cdot 15
-1_12 · PF.T
-1.13 · Artificial Sequence
- 11.20 ×
ML23 · Description of Artificial Sequence: Synthetic
+400 - 170
Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly
                          1.0
+00105 171
<.0111> 15
<2125 PET
<213> Artificial Sequence
- 2205

Cliss Description of Artificial Sequence: Synthetic
4008 171
Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly
<2100-172
<.311> 15
<212> FRT
<::13> Artificial Sequence
-.2205
*3230 Description of Artificial Sequence: Synthetic
· 4008 172
Pro Asp fle Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val
                 e,
H210H 175
<.:1.1 - 15
· ..... FFT
42130 Artificial Sequence
100

Sign Description of Artificial Sequence: Synthetic
-14001 175
```

Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly

Ε,

::10: 174
*:211** 15

1

<210 > PRT -1.11 - Artificial Sequence Half + Description of Artificial Sequence: Synthetic +(400 + 174)3ly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala $\pm 2210 + 175$ 4211 - 15 -1111 - FET Artificial Sequence 40000 A HELES - Description of Artificial Sequence: Synthetic $\pm 400 \times 175$ Val Ard Gly Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly 10 $\pm 0.140 \pm 176$ $\pm 12.11 \pm 15$ 41.11.1 PFT +:113 · Artificial Sequence Half & Description of Artificial Sequence: Synthetic $\pm 400 \cdot 176$ Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val +1.10 - 1771211 15 · J1H · FFT + 213 - Artificial Sequence +223 - Description of Artificial Sequence: Synthetic -.400 - 177 Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro +310 - 178+1211 + 15+1212: FFT *12130 Artificial Sequence <223> Description of Artificial Sequence: Synthetic

<400> 178 Dys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala Ę, 10 $\pm 0.110 \pm 179$ $\pm 1211 \pm 15$ 10012 PRT +2213 · Artificial Sequence -12200 -HAMB - Description of Artificial Sequence: Synthetic <400 + 179Lor Ger Gly Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Ε, 3.210×180 $\pm 211 \pm 15$ $<0.12 \leq \mathrm{FET}$ +213 - Artificial Sequence · 3. 3. Description of Artificial Sequence: Synthetic 44000 180 Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu Ę +210 > 181 43113-15 +312> PRT +31 > Artificial Sequence 422004 +00000 Description of Artificial Sequence: Synthetic -400 131 Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr 5 10 -1:10> 182 +211≥ 15 · Diff: PRT + 223 Artificial Sequence -12200 PLICE: Description of Artificial Sequence: Synthetic 44000-182 Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys 1 10

```
<110~ 143
<.111 - 15
-1.1 + PRT
421 + Artificial Sequence
KL 2016
<!200 Description of Artificial Sequence: Synthetic</pre>
-(400 - 163)
317 Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu
         5,
                                     1 )
-111 - 114
*1211 * 15
HOLL PET
Kuli Artificial Sequence
H226 ×
HIBER Description of Artificial Sequence: Synthetic
\pm (4000 + 184)
Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro
1. 5
                         10
-1..1: 135
4.111 - 15
\cdots \cdots \vdash FFT
Allse Artificial Sequence
HARRY Description of Artificial Sequence: Synthetic
-14 Date 185
Mai Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met
                 5
                                      10
-0.2104 186
-1.111 15
WILLS FFT
-0.130 Artificial Sequence
40.150 Description of Artificial Sequence: Synthetic
-:400: 156
Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala
                  5
                                     10
-0.100 187
·0211: 15
<2120 PFT
<215 Artificial Sequence
```

```
:2211
HIDDA - Description of Artificial Sequence: Synthetic
\pm 400 \times 137
Ary Blu Leu Val Ash Pro Ala Ser Met Lys Gln Ala Leu Ile Ala
                                       1.0
\pm 0.110 \pm 1.83
\pm 0.111 \pm 15
HIII PET
<!!!!! ** Artificial Sequence</pre>
-:223 - Description of Artificial Sequence: Synthetic
-0400 - 188
Mal Asr. Pro Ala Ser Met Lys Gln Ala Leu Ile Ala Ser Ala Arg
                                       10
H210k- 189
400110-15
ARTER PRI
+213 · Artificial Sequence
H223 - Description of Artificial Sequence: Synthetic
R400.1159
Ala Ser Met Lys Glr. Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro
H2100-190
+12121 \cdot \text{FFT}
82132 Artificial Sequence
PLANCE Description of Artificial Sequence: Synthetic
44000 - 190
Lys Glr. Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn
1 5
                                       10
\pm 0.0100 - 191
<211: 15</p>
·21L: FFT
+212: Artificial Sequence
+12000+
+2230 Description of Artificial Sequence: Synthetic
+4000 \times 191
```

Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu 1 (1 $<1.10 \cdot 192$ -211 - 15 -1.1 · PF.T 4213 · Artificial Sequence -i, jú -3.33 Description of Artificial Sequence: Synthetic +400 + 192Ser Ala Arg Arg Le. Pro Gly Val Asn Met Phe Glu Gln Gly His $\pm 210 \times 193$ \cdot 211. \cdot 15 $<0.11\,L_{\odot}<\mathrm{FF,T}$ RD13 Artificial Sequence 1.134. HUDBA Description of Artificial Sequence: Synthetic Ang Leu Pro Gly Val Asn Met Phe Glu Glr. Gly His Gly Lys Leu 10 HE100-194 1111115 $+1.011.01 \cdot \text{FF.T}$ H11137 Artificial Sequence .:2200* +2.23 Description of Artificial Sequence: Synthetic $-4000 \cdot 194$ Gly Val Asn Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu 6, 10 -2100-195 .211: 15 .212: PPT +0130 Artificial Sequence H223: Description of Artificial Sequence: Synthetic -14000 195 Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr 15 10

 $\cdot:=100\cdot\ 196$

```
<2115 15
<.110 - FET
K21 > A:tificial Sequence
-(1)
Hall's Description of Artificial Sequence: Synthetic
-:400 - 196
Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu
10
41.10 - 147
1211 111
\pm 0.117 + \text{FET}
Hills Artificial Sequence
-1000
HALTS - Lescription of Artificial Sequence: Synthetic
-1400 × 197
Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr
                                      1 \cdot 0
+...10 + 198
+..11 + 15
+1112 · PFT
+213 · Artificial Sequence
. 1
\pm 2.3 \pm \text{Description} of Artificial Sequence: Synthetic
-1400 + 198
Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln
1.10 - 199
111115
· .. 1.1 · FF.T
+1213 · Artificial Sequence
·12120.+
#223 Description of Artificial Sequence: Synthetic
199
Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu
                                     1 ()
+.10 - 200
-1.111 \cdot 15
-0.120 PF/T
-02130 Artificial Sequence
-:220u-
```

<223 Description of Artificial Sequence: Synthetic</p> -(1):1 - 201) Ein Ele Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser 10 H217 - 201 <211 - 15 4311 - PRT Halt - Artificial Sequence 1883 Description of Artificial Sequence: Synthetic -(4)J - (1) Ash ter Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp S.::2:: - . (:.) -.211 - 1f HULL - EFT Hilli Artificial Sequence HARBY Rescription of Artificial Sequence: Synthetic -1400 - 1711 $\mathbb{L}_{T^{3}}$ Pro iln Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu 10 4210.4 203 -1211 - 15 COLOR PET KII3 Artificial Sequence HIBB Description of Artificial Sequence: Synthetic -(4u0) - 103 Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr 1. 10 30100-204 -00110 15 HUILD FET 30.130 Artificial Sequence +2223 Description of Artificial Sequence: Synthetic -:400> 104 Jer Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro 10

```
H21 IN 205
3211 - 15
HIJIJ - PRT
H213 - Artificial Sequence
--224
*3.3 * Description of Artificial Sequence: Synthetic
-400 - 115
Tyr Il. Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser
* 21:1 - 296
+0.11 + 15
- Ninte FRT
F213 - Artificial Sequence
HP13: Description of Artificial Sequence: Synthetic
\pm 400 + 306
New The Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile
10.10 - 107
-1111 - 11
-1111 - FFT
HILLS Artificial Sequence
<223 Tescription of Artificial Sequence: Synthetic</p>
-:405. - 157
Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile Tyr Tyr Gly
+ 0100 - 003
+211:- 1052
FILE DE PART
Hambar Homo sapiens
-14 GUDA [1]
Met Lys Leu Val Asn Ile Trp Leu Leu Leu Val Val Leu Leu Cys
\operatorname{Gl}\gamma Lys \operatorname{Lys} His Leu \operatorname{Gly} Asp Arg Leu Glu Lys Lys Ser Phe Glu Lys
                                     25
Ala Pro Cys Pro Gly Cys Ser His Leu Thr Leu Lys Val Glu Phe Ser
Ser Thr Val Val Glu Tyr Glu Tyr Ile Val Ala Phe Asn Gly Tyr Phe
```

	50					55					6 0				
Thr 65	Ala	Lys	Ala	Arg	Asn 70	Ser	Ph∈	Ile	Ser	Ser 75	Ala	Leu	Lys	Ser	Ser 30
Glu	Vāl	Asp	Asn	Trp 85	Arg	Ile	Ile	Pro	Arg 90	Asn	Asn	Pro	Ser	5⊕r 95	Asp
Tyr	Pro	Ser	Asp 100	Phe	Glu	Val	Ile	Gln 105	Ile	Lys	Glu	Lys	Gln 110	Lys	Ala
Gly	Leu	Leu 115	Thr	Leu	Glu	Asp	His 120	Pro	Asn	Ile	Lys	Arg 125	Val	T:r	Pro
Gln	Arg 130	Lys	Val.	Phe	Arg	Ser 135	Leu	Lys	Tyr	Ala	Glu 140	Ser	Asp	Pro	Thr
Val 145	Pro	Cys	Asn	Glu	Thr 150	Arg	Trp	Ser	:Gl,rı	Lys 155	Trp	Gln	Ser	Ser	Arg 160
Pro	Leu	Arg	Arq	Ala 165	Ser	Leu	Ser	Leu	Glу 170	Ser	Gly	Ph∈	Trp	His 175	Ala
Thr	Gly	Arg	His 180	Ser	Ser	Arg	Arq	Leu 135	Leu	Arg	Ala	Il€	Pro 190	Arg	Gur
Val	Ala	Gln 195	Thr	Leu	Sln	Ala	Asp 200	Val	Leu	Trp	Gln	Met 205	Gly	Tyr	Thr
G_y	Ala 210	Asrı	Val	Arq	Val	Ala 215	Val	Phe	Asp	Thr	Gly 200	Leu	Ser	Glu	Lys
His 225	Pro	His	Ph≑	Lys	Asn 230	Val	Lys	Glu	Arg	Thr 235	Asn	Trp	Thr	Asn	Glu 240
Arg	Thr	Leu	Asp	Asp 245	Gly	Leu	Gly	His	Gly 250	Thr	Phe	Val	Āla	Gly 255	Val
Ile	Ala	3er	Met 260	Arq	Glu	Cys	Gln	Gly 265		Ala	Pro	Asp	Ala 270	Glu	Leu
His	Ile	Ph.∈ 275	Arg	Väl	Phe	Thir	Asn 280	Asn	Glr	Val	Ser	Tyr :85	Thr	Ser	Tap
Phe	Leu 290	Asp	Ala	Phe	Asn	Tyr 245	Ala	Ile	Leu	Lys	L;s 300	lle	Asp	Val	Leu
Asn 305	Leu	Ser	Ile	Gly	Gly 310	Pro	Asp	Phe	Met	Asp 315	His	Pro	Phe	Vāl	Asp 320
Lys	Val	Trr	Glu	let 325	Thr	Ala	Asn	Asn	Val 330	Ile	Met	Val	Ser	Ala 335	Ile
Gly	Asn	Asp	Gl; 340	Pro	Leu	Tyr	Gly	Thr 345	Leu	Asn	Asn	Prc	Ala 350	Asp	Gln
Иet	Asp	Val	Ile	Gly	Val	Gly	Gly	Ile	Asp	Phe	Glu	Asp	Asn	Ile	Ala

		355					360					3.65			
Arg	Phe 370	Ser	Ser	Arg	Gly	Met 375	Thr	Thr	Trp	Glu	Leu 330	Pro	Gly	Gly	Tyr
Gly 335	Arg	Met	Lys	Pro	Asp 390	Ile	Val	Thr	Tyr	Gly 395	Ala	Sly	Val	Arạ	31y 400
Ser	Gly	Val	Lys	Gly 405	Gly	Cys	Arg	Ala	Leu 410	Sen	Gly	Thr	Ser	Val 415	Alā
Ser	Pro	Vāl	Val 420	Ala	Gly	Ala	Val	Thr 425	7.3.1	Lėu	Val	Ser	Tnr 430	Val	Gln
Lys	Arģ	Glu 435	Leu	Val	Asr.	Pro	Ala 440	Ser	Met	Lys	Gln	Ala 445	Leu	Ile	Ala
Ser	Ala 450	Arg	Arg	Leu	Pro	Gly 455	Väl	Asn	Met	Phe	Glu 460	Gln	Gly	His	Gly
Lys 465	Leu	Asp	Leu	Leu	Arg 470	Ala	Tyr	Gln	The	Leu 475	Asn	Ser	Tyr	Lys	Pro 480
Gln	Ala	Ser	Leu	Ser 485	Pro	Ser	Tyr	Ile	A3p 4+)	Leu	Tnr	Glu	Cys	Pro 495	Tyr
Met	Trp	Pro	Tyr 500	Cys	Ser	Gln	Pro	Ile 505	Tyr	Туг	Gly	Gly	Met 510	Pro	Thr
Val	Val	Asn 515	Val	Thr	Ile	Leu	Asn 520	GLy	Met	Gly	Vai	Thr 515	Gly	Arg	Il€
Val	Asp 530	Lуs	Pro	Asp	Trp	Gln 535	Pro	Tyr	Leu	Pro	Gln 540	Asn	Gly	Asp	Asrı
Ile 545	Glu	Val	Ala	Phe	Ser 550	Tyr	Ser	Ser	Val	Leu 555	Trp	Pro	Trp	Ser	Gly 560
Tyr	Leu	Ala	Ile	Ser 565	Ile	Ser	Väil	Thr	Lys 570	Lys	Ala	A.la	Ser	Trp 575	Glu
Gly	Ile	Ala	Gln 580	Gly	His	Val	Met	Ile 585	Thr	Val	Ala	Ser	Pro 590	Ala	·3lu
Thr	Glu	Ser 595	Lγs	Asn	Gly	Ala	Glu 600	Gln	Thr	Ser	Thr	Val 605	Lys	Leu	Pro
Ile	Lys 610	Vāl	Lys	Ile	Ile	Pro 615	Thr	Pro	Pro	Arg	Ser 620	Lys	Arg	Val	Leu
Trp 625	Asp	Gln	Tyr	His	Asn 630	Leu	Arg	Tyr	$\Gamma_{t,s}(O)$	Pro 635	Gly	Tyr	Phe	Pro	Arg 640
Asp	Asn	Leu	Arg	Met 645	Lys	Asn	Asp	Pro	Leu 650	Asp	Trp	Asn	Gly	Asp 655	His
Ile	His	Thr	Asn	Phe	Arg	Asp	Met	Tyr	Gln	His	Leu	Arg	Ser	Met	Gly

			660					665					670		
Tyr	Phe	Val 675	BLu	Val	Leu	Gly	Ala 630	Pro	Phe	Thr	Суз	Phe 685	Asp	Ala	Ser
Gln	Tyr 690	Gly	Thr	Leu	Leu	Met 695	Val	Asp	Ser	Glu	Glu 700	Glu	Tyr	Phe	Pro
Glu 705	Glu	Ile	Alâ	Lys	Leu 710	Arg	Arg	Азр	Val	Asp 715	Asn	Gly	Leu	Ser	Leu 720
Val	Ile	Phe	Ser	Asp 725	Trp	Tyr	Asn	Thr	Ser 730	Val	Met	Ara	Lys	Val 735	Lys
Pne	Tyr	Asp	G14 740	Asn	Thr	Arg	Gln	Trp 745	Trp	Met	Pro	Asp	Thr 750	Gly	Gly
Ala	Asn	Ile 755	Pro	Ala	Leu	Asn	Glu 760	Leu	Leu	Ser	Val	Prp 765	Asn	Met	Gly
₽ħ€	Ser 770	Asp	Gly	Leu	Tyr	Glu 775	Gly	Glu	Phe	Thr	Leu 730	Ala	Asn	His	Asp
Met 785	Tyr	Тут	Ala	Ser	Gly 790	Cys	Ser	Ile	Ala	Lys 795	Phe	Pro	Glu	Asp	Gly 300
Vāl	Val	Ile	Thr	Gln 805	Thr	Ph·e	Lys	Asp	Gln 310	Gly	Leu	-31u	Val	Leu 815	Lys
Gln	Glu	Th.r	Ala 320	Val	Val	Glu	Asn	Val 825	Pro	Ile	Leu	Gly	Leu 830	Tyr	Gln
ile	Prc	Ala 335	Glu	Gly	Gly	Gly	Arg 340	Ile	Val	Leu	Tyr	Gly 345	Asp	Ser	Asn
Cys	Leu 850	Asp	Asp	Ser	His	Arg 855	Gln	Lys	qsA	Cys	Phe 860	Trp	Leu	Leu	Asp
Ala 365	Leu	Leu	Gln	Tyr	Thr 870	Ser	Tyr	Glγ	Val	Thr 375	Pro	Pro	Ser	Leu	Ser 880
His	Ser	Gly	Asn	Arg 885	Gln	Arg	Pro	Pro	Ser 890	Gly	Ala	Gly	Ser	Val 895	Thr
Pro	Glu	Arg	Met 900	Glu	Gly	Asn	His	Leu 905	His	Arg	Tyr	Ser	Lys 910	Val	Leu
Glu	Ala	His 915	Leu	Gly	Asp	Pro	Lys 920	Pro	Arg	Pro	Leu	Pro 925	Alā	Cys	Pro
Arg	Leu 930	Ser	Trp	Ala	Lys	Pro 935	Gin	Pro	Leu	Asr.	Glu 940	Thr	Ala	Pro	Ser
Asn 945	Leu	Trp	Lys	His	Gln 950	Lys	Leu	Leu	Ser	Ile 955	Asp	Leu	Asp	Lys	Val 960
Val	Leu	Pro	Asn	Phe	Arg	Ser	Asn	Arg	Pro	Gln	Val	Arq	Pro	Leu	Ser

965	970	97	15

Pro Gly Glu Ser Gly Ala Trp Asp Ile Pro Gly Gly Ile Met Pro Gly 980 985 990

Arg Tyr Asn Gln Glu Val Gly Gln Thr Ile Pro Val Phe Ala Phe Lea 395 1000 1005

Gly Ala Met Val Val Leu Ala Phe Phe Val Val Gln Ile Ash Lys Ala 1010 1015 1020

Lys Jer Arg Pro Lys Arg Arg Lys Pro Arg Val Lys Arg Pro Gln Leu 1025 1030 1035 1040

Met Glin Glin Val His Pro Pro Lys Thr Pro Ser Val 1045 1050

-210 - 209

 $\pm 1211 \pm 180$

H212 + PRT

-213 - Homo sapiens

-1400 - 209

Ang Ala Ile Pro Arg Gln Val Ala Glr. Thr Leu Gln Ala Asp Val Leu 1 5 10 15

Trp Gln Met Gly Tyr Thr Gly Ala Ash Val Arg Val Ala Val Phe Asp 20 25 30

Thr Gly Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys Glu Arg 40 45

Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly 50 60

Thr Fhe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe 65 70 75

Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asr Ash Glu 85 95

Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu 100 105 110

Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met 115 120

Asp His Frc Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asr. Asn Val 130 135 140

Ile Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu 145 150 155 160

Asn Asn Fro Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile Asp 165 170 175

Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp 135 180 Gla Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr 200 Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala Leu 210 215 Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Lou Val Ser Thr Val Gln Lys Arg Glu Leu Val Ash Pro Ala Ser Met 250 Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn Met 265 Phe Glu Gln Gly His Gly Lys Leu 275 -0.210 · 210 1.11 15 -212 - PRT 3213 · Artificial Sequence HARD Description of Artificial Sequence: Synthetic 44000-110 Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val 10 ·1110> 111 42112 15 SUBLES PRT <:113: Artificial Sequence</pre> S223: Description of Artificial Sequence: Synthetic 44000-011 Ala Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val 10 42105 212 +1.111 - 15- III PRT H1130 Artificial Sequence <dimb Description of Artificial Sequence: Synthetic</pre> 34000 212

```
Gly Ala Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
                          1 )
42175 213
1.211 \cdot 15
HARLEY PRT
Hill3 - Artificial Sequence
-1320 -
+223 - Description of Artificial Sequence: Synthetic
+400 + ...13
Gly Ser Ala Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
m310 - 314
+ 211 × 15
-U12 - PRT
4013 Artificial Sequence
2.2
HAMB. Description of Artificial Sequence: Synthetic
Gly Ser Ile Ala Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
                 5,
                                     10
<210 - 215
4211 - 15
S2125 FRT
<2139 Artificial Sequence
×:2.20 ×
<2223 > Description of Artificial Sequence: Synthetic
Gly Ser Ile Ser Ala Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
                                     10
+ 2100 - 216
-...11> 15
·2121/ PRT
· .: 13: Artificial Sequence
12.73 Description of Artificial Sequence: Synthetic
<100: ..16
Gly Ser Ile Ser Tyr Ala Ala Arg Tyr Ala Asn Ala Met Ala Val
                  5.
                                     10
```

·1210:- 217

```
< ?11 + 15
4.212 + PRT
3213 - Artificial Sequence
41.12.0 A
<223 - Description of Artificial Sequence: Synthetic</pre>
4400 - 227
Gly Mer Ile Ser Tyr Pro Ala Ala Tyr Ala Asn Ala Met Ala Val
-1.11.3 - 1.118
-0.11 - 15
HULL - PET
Artificial Sequence
32229
HAMB - Description of Artificial Sequence: Synthetic
\pm 400 \pm .018
Gly Se: Ile Ser Tyr Pro Ala Arg Ala Ala Asn Ala Met Ala Val
                   5
                           1.)
4216 - 219
\pm 0.111 \pm 15
4212 - FRT
ANDIE - Artificial Sequence
31.20 ×
+1...3 + \text{Description of Artificial Sequence: Synthetic}
4400 + 219
Gly Ber Ile Ser Tyr Pro Ala Arg Tyr Ala Ala Ala Met Ala Val
                    5
                                        10
10 . 10
\pm 1.11 \pm 15
· . . . . FFT
1.13 Artificial Sequence
#11.5% Description of Artificial Sequence: Synthetic
H4000 71.0
\operatorname{Gl}\gamma Cer Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Ala Val
                   5
                                       10
HILL00-121
47111-15
\cdot: 11 :- PFT
+1:13: Artificial Sequence
12200-
```

<223 Description of Artificial Sequence: Synthetic</p> 4400 -1 Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Ala 10 $\pm (210 + 112)$ 4211 - 15 H212 - EET <213 · Humicola insplens</pre> 41400 - 1.12 Pro Gly Gly Val Ala Tyr Ser Cys Ala Asp Gln Thr Pro Trp Ala $\pm 1210 \pm 223$ $\pm 0.111 \pm 15$ 11.1 · FFT -1113 - Humicola insolens +400 + ...3Tys Gly Trp Ala Lys Lys Ala Pro Val Asn Gln Pro Val Phe Ser 4210x 224 ·1211 · 276 -0110 - PFT :::13 Humicola insolens 4400.- .24 Met Arg Ser Ser Pro Leu Leu Pro Ser Ala Val Val Ala Ala Leu Pro Val Leu Ala Leu Ala Ala Asp Gly Arg Ser Thr Arg Tyr Trp Asp Cys 20 25 30 Cys Lys Pro Ser Cys Gly Trp Ala Lys Lys Ala Pro Val Asn Gln Pro Mal Pho Ser Cys Ash Ala Ash Phe Gln Arg Ile Thr Asp Phe Asp Ala 55 Lys Ser Gly Cys Glu Pro Gly Gly Val Ala Tyr Ser Cys Ala Asp Gln Thr Pro Trp Ala Val Asn Asp Asp Phe Ala Leu Gly Phe Ala Ala Thr Cer Ile Ala Gly Ser Asn Glu Ala Gly Trp Cys Cys Ala Cys Tyr Glu 100 105 110

Leu Thr Phe Thr Ser Gly Pro Val Ala Gly Lys Lys Met Val Val Gln

120

Ser Thr Ser Thr Gly Gly Asp Leu Gly Ser Asn His Phe Asp Leu Asn 135 Ile Pro Gly Gly Gly Val Gly Ile Phe Asp Gly Cys Thr Pro Gln Phe 155 Gly Gly Leu Pro Gly Gln Arg Tyr Gly Gly Ile Ser Ser Arg Asn Glu 165 170 Cys Asp Arg Phe Pro Asp Ala Leu Lys Pro Gly Cys Tyr Trp Arg Phe Asp Tro Phe Lys Asr. Ala Asp Asn Pro Ser Phe Ser Phe Arg Gln Val 200 Gin Cys Pro Ala Glu Leu Val Ala Arg Thr Gly Cys Arg Arg Asn Asp Asp Gly Asn Phe Pro Ala Val Gln Ile Pro Ser Ser Ser Thr Ser Ser 230 235 Pro Val Asn Gln Pro Thr Ser Thr Ser Thr Thr Ser Thr Ser Thr Thr 250 245 Ser Ser Pro Pro Val Gln Pro Thr Thr Pro Ser Gly Cys Thr Ala Glu 265 Arg Trp Ala Gln .275 7.210 × .225 <3115 18 <213> PRT <313> Thermomyces lanuginosus <4005 225 Gly Asp Val Thr Gly Phe Leu Ala Leu Asp Asn Thr Asn Lys Leu Ile Val Leu K210% 2.06 <211 > 15 $\pm 1112 \times \text{FET}$ ${<}113 \cdot$ Thermomyces lanuginosus $\Im \operatorname{cr}$ lle Glu Asn Trp Ile Gly Asn Leu Asn Phe Asp Leu Lys Glu 10 -1105 227 · 111: 191 -12121 PET

<213> Thermomyces lanuginosus								
<400> 227 Met Arg Ser 1	Ser Leu Val	Leu Phe Ph	e Val Ser Ala 10	Trp Thr Ala Leu 15				
Ala Ser Pro	Ile Arg Arg	Glu Val Se. 2		Phe Asn Gln Phe 30				
Asn Leu Phe 35	Ala Gln Tyr	Ser Ala Al 40	a Ala Tyr Cys	Gly Lys Asn Asn 45				
Asp Ala Pro 50	Ala Gly Thr	Ash Ile Th.	r Cys Thr Gly 60	Asr. Ala Cys Pro				
Glu Val Glu 65	Lys Ala Asp 70	Ala Inr Ph	e Leu Tyr Ser 75	Phe Glu Asp Ser 80				
Gly Val Gly	Asp Val Thr 35	Gly Phe Le	u Ala Leu Asp 90	Ash Thr Ash Lys 95				
	Leu Ser Phe 100	Arg Gly Se 10		Glu Asn Trp Ile 110				
Gly Asn Leu 115	Asn Phe Asp	Leu Lys Gl	u Ile Asn Asp	Ile Cys Ser Gly 125				
Cys Arg Gly 130	His Asp Gl;	Pha Thr Se. 135	r Ser Trp Arg 140	Ser Val Ala Asp				
Thr Leu Arg 145	Gln Lys Val 150	Glu Asp Ala	a Val Arg Glu 155	His Pro Asp Tyr 160				
Arg Val Vāl	Phe Thr Gly 165	His Ser Le	u Gly Gly Ala 170	Seu Ala Thr Val 175				
Ala Gly Ala	Asp Leu Arg 180	Gly Asn Gly 13		Asp Val Phe Ser 190				
Tyr Gly Ala 195	Pro Arg Val	Gly Asn Arc 200	g Ala Phe Ala	Glu Phe Leu Thr 205				
Val Gln Thr 210	Gly Gly Thr	Leu Tyr Aro	g Ile Thr His 220	Thr Asn Asp Ile				
Val Pro Arg 225	Leu Pro Pro 23)	Arg Glu Phe	e Gly Tyr Ser 235	His Ser Ser Pro 240				
Glu Tyr Trp	Ile Lys Ser 245	Gly Thr Lei	u Val Pro Val 250	Thr Arg Asn Asp 255				

The Val Lys The Glu Gly The Asp Ala Thr Gly Gly Asn Asn Gln Pro

Asn Ile Pro Asp Ile Pro Ala His Leu Trp Tyr Phe Gly Leu Ile Gly

Thr Cys Leu [9]

- <210 · .:28
- 4011 1°
- HU12 PRT
- 3213 Jireptomyces plicatus
- -:400> .:: 8
- 010 129
- $\pm 211 \pm 313$
- -212- PET
- %313 Streptomyces plicatus
- 4000 029
- Mot Pho Thr Fro Val Arg Arg Arg Val Arg Thr Ala Ala Leu Ala Leu 1 5 10 15
- \odot r Ala Ala Ala Leu Val Leu Gly Ser Thr Ala Ala Ser Gly Ala .20 25 30
- Umr Ala Thr Pro Ser Pro Ala Pro Ala Pro Ala Pro Ala Pro Val Lys 35 40 45
- Gin Gly Pro Thr Ser Val Ala Tyr Val Glu Val Asn Asn Asn Ser Met 50 60
- Leu Asn Val Gly Lys Tyr Thr Leu Ala Asp Gly Gly Gly Asn Ala Phe 65 70 75 80
- Asp Vai Ala Val Ile Phe Ala Ala Asn Ile Asn Tyr Asp Thr Gly Thr 85 90 95
- Lys Thr Ala Tyr Leu His Phe Asn Glu Asr. Val Gln Arg Val Leu Asp 100 105 110
- Asn Ala Val Thr Gin Ile Arg Pro Leu Gin Gin Gin Gly Ile Lys Val 115 129 125
- Leu Leu Ser Val Leu Gly Asn His Gln Gly Ala Gly Phe Ala Asn Phe 130 135 140
- Pro Ser Gln Gln Ala Ala Ser Ala Phe Ala Lys Gln Leu Ser Asp Ala 145 150 155 160
- Val Ala Lys Tyr Gly Leu Asp Gly Val Asp Phe Asp Asp Glu Tyr Ala 165 170 175
- Glu Tyr Gly Asn Asn Gly Thr Ala Gln Pro Asn Asp Ser Ser Phe Val 180 185 190
- His Leu Val Thr Ala Leu Arg Ala Asn Met Pro Asp Lys Ile Ile Ser

195 200 205

Leu Tyr Asn Ile Gly Pro Ala Ala Ser Arg Leu Ser Tyr Gly Gly Val 210 215 220

Asp Val Ser Asp Lys Phe Asp Tyr Ala Trp Asn Pro Tyr Tyr Gly Thr

Trp Glr. Val Pro Gly Ile Ala Leu Pro Lys Ala Glr. Leu Ser Pro Ala 245 250 255

Ala Val Glu Tle Gly Arg Thr Ser Arg Ser Thr Val Ala Asp Leu Ala 260 265 270

Arg Arj Thr Val Asp Glu Gly Tyr Gly Val Tyr Leu Thr Tyr Asn Leu 275 280 285

Asp Gly Gly Asp Arg Thr Ala Asp Val Ser Ala Phe Thr Arg Glu Leu 290 295 300

Tyr Gly Ser Glu Ala Val Arg Thr Pro 305 310

-:210 - 230

-11:11 - 15

 $0.0112 \times \mathrm{FET}$

+213 · Bacillus amyloliquefaciens

<4CU + 230

Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val 1 5 10 15

· //10/- //31

<1.11. 15

-0.3120 PET

<2.13 Pacillus amyloliquefaciens</pre>

-14000-131

Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn 1 5 10 15

HD100-232

.:211:- 15

 $\cdot 1.1111 \cdot \text{ FFT}$

*::130 Bacillus lentus

+14001 033

Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
1 5 10 15

 $\pm 2.100 \cdot 1.33$

· 0100 05

·212> PFT

-:213 · Bacillus lentus -:400 + 333 Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser 10 $\pm 210 \pm 234$ <2115 17 H2124 PET +:213> Babillus lentus -1400 - 334 Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Ash Ala Met Ala Val Gly 10 $E_{\perp}^{\perp}A$ ±210 € 235 .211. 15 Hills PRT ·213 · Bacillus lentus - 400 - 235 Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser 10 1 5 <210> ..36 <211: 273 -Did-PFT <213 · Artificial Sequence <20.00 <223 Description of Artificial Sequence: Hybrid of Bacillus lentus and Bacillus amyloliquefaciens -:400 × 1.36 Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp 20

Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala 85 90 95

Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser

Pho Vai Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr

His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu

55

50

Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala 100 Gly Asr. Asn Gly Met His Val Ile Asn Met Jer Leu Gly Gly Ser Gly 120 115 Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala Ser Gly Val 135 Val Val Val Ala Ala Ala Gly Asn Glu Gly Thr Ser Gly Ser Ser 150 Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala Val Gly Ala 165 Val Asp Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val Gly Pro Glu 185 Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr Leu Pro Gly 195 Asn Lys Tyr Gly Ala Tyr Asr. Gly Thr Ser Met Ala Ser Pro His Val 215 Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Trp Thr Asn 235 230 Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Thr Lys Leu Gly Asp 245

Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala Ala Gln 265